

Title (en)

Method for estimating speed of user devices in wireless communication networks

Title (de)

Verfahren zur Schätzung der Geschwindigkeit von Benutzergeräten in drahtlosen Kommunikationsnetzwerken

Title (fr)

Procédé d'estimation de la vitesse de dispositifs d'utilisateur dans des réseaux de communication sans fil

Publication

EP 2878968 A1 20150603 (EN)

Application

EP 13382476 A 20131127

Priority

EP 13382476 A 20131127

Abstract (en)

A method of user speed estimation in a mobile network (200), comprising: collecting (210) all events from the network (200) during a time period, grouping (21) all the network events associated with the same user and sorting them by their timestamps, obtaining data of location and coverage area of the cell associated with each event (210), computing a trajectory that minimizes speed for all events by estimating initial locations (22) of the user, per event, using a spatial model (23) based on the obtained data of location (220) and coverage of all the cells associated with the grouped network events, updating the estimated positions to compute a path (24) that minimizes speed at every time, via an iterative process where positions are recomputed while the change in the estimated position exceeds a threshold (25), estimating (26) a lower bound speed of the user, per event, by computing a function of the updated estimated locations and the timestamps of each event.

IPC 8 full level

G01S 5/02 (2010.01); **H04W 4/029** (2018.01)

CPC (source: EP US)

H04W 4/029 (2018.01 - EP US)

Citation (applicant)

- US 6052598 A 20000418 - RUDRAPATNA ASHOK N [US], et al
- US 2012309411 A1 20121206 - MACGOUGAN GLENN DONALD [US], et al
- WO 2010090558 A1 20100812 - ERICSSON TELEFON AB L M [SE], et al
- TETTAMANTI: "Route Choice Estimation Based on Cellular Signaling Data", ACTA POLYTECHNICA HUNGARICA, 2012

Citation (search report)

- [A] US 2007281712 A1 20071206 - POVEY GORDON [GB], et al
- [A] US 2011034178 A1 20110210 - MEHTA CHAND [US]
- [A] US 2009005972 A1 20090101 - DE KONING WILHELMUS G [NL]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2878968 A1 20150603; US 2015148068 A1 20150528

DOCDB simple family (application)

EP 13382476 A 20131127; US 201414554822 A 20141126